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BY E-MAIL

(AlisoCanyonOII@cpuc.ca.gov)

California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

RE: Aliso Canyon Withdrawal Protocol

Dear Energy Division:

SoCalGas appreciates the opportunity to comment on Energy Division's proposed revisions to the Aliso Canyon withdrawal protocol dated July 1, 2019 (Revised Withdrawal Protocol) which are intended to allow more effective use of this critical asset. Despite this intent, the Revised Withdrawal Protocol represents a more reactive approach to system management (requiring the system to get close to failure before Aliso Canyon can be used), rather than forward-looking management of the system to promote reliability and price stability. It therefore does not accomplish Energy Division's stated purpose of "address[ing] energy reliability challenges and price impacts in Southern California while maintaining safe operations of the Aliso Canyon Gas Storage Facility."¹

Energy Division identifies important objectives intended to be accomplished by the Revised Withdrawal Protocol. However, the best way to accomplish these objectives is to eliminate any withdrawal protocol and allow Aliso Canyon to operate – consistent with Division of Oil, Gas, and Geothermal Resources (DOGGR) and federal regulations – as it was designed and intended. This will maximize SoCalGas' ability to inject gas into all of its storage fields in preparation for the winter season and make available to the market over a billion cubic feet per day (Bcfd) of on-system firm storage withdrawals to mitigate price volatility and promote a reliable system.

As discussed in more detail below, contrary to the stated intent, the Revised Withdrawal Protocol further limits Aliso Canyon's use and thus places energy reliability at risk and could increase natural gas price volatility. For example, the Revised Withdrawal Protocol mandates that unless there is a Stage 2 (or greater) low Operational Flow Order (OFO), SoCalGas must curtail customers instead of using Aliso Canyon. As another example, the Revised Withdrawal Protocol

¹ Proposed Revisions to the Aliso Canyon Withdrawal Protocol at page 1.

jeopardizes system reliability by restricting the ability to use Aliso Canyon on an emergency basis and waiting until non-Aliso Canyon inventory and withdrawal capacity falls to critical levels before allowing the use of Aliso Canyon. SoCalGas has proposed redlines to the Revised Withdrawal Protocol (*Attachment A*) to address these issues.

SoCalGas has also attached previously proposed redlines to the California Public Utilities Commission (Commission) and California Energy Commission (*Attachment B*).² Under these previously submitted proposed revisions, Aliso Canyon would generally be used in two circumstances. First, Aliso Canyon will be used to balance customer supply and demand. Second, if SoCalGas' storage inventories are not meeting targets for core reliability, Aliso Canyon will also be used to preserve and build non-Aliso Canyon storage inventory. Under the second scenario, Aliso Canyon will be used to both balance supply and demand and to meet scheduled withdrawals, instead of withdrawals occurring at the non-Aliso Canyon fields. In making Aliso Canyon an "as-needed" facility to balance the system and preserve and build inventory in the non-Aliso Canyon storage fields, this approach allows SoCalGas to make available for scheduling additional injection and withdrawal capacity at the non-Aliso Canyon fields, increasing system flexibility and reliability. In any event, to fully accomplish a more forward-looking approach, increased or additional system flexibility will need to be achieved by increasing the maximum available capacity at Aliso Canyon by updating the California Public Utilities Code Section 715 Report (715 Report).

In order of effectiveness, Energy Division should either remove the withdrawal protocol entirely, adopt the withdrawal protocol balancing approach in Attachment B that SoCalGas previously proposed, or (as a least but still beneficial alternative) incorporate the modifications presented in *Attachment A* and further discussed below into the Revised Withdrawal Protocol.

Revised Withdrawal Protocol

Energy Division indicates that the Revised Withdrawal Protocol is intended to allow additional use of Aliso Canyon to avoid "extraordinarily high natural gas and electricity prices," "critically low inventory levels at the non-Aliso storage fields," and "difficult[ies] [in building] up winter storage inventory at the non-Aliso fields."³ The text of the Revised Withdrawal Protocol indicates that it is intended to ensure that:

- "[T]here is enough systemwide injection capacity by April 1 (the start of the injection season) to fill the non-Aliso fields to a sufficient inventory level to meet summer demand."⁴

² More detail is available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228704&DocumentContentId=59958>.

³ See CPUC Letter re: Aliso Canyon Withdrawal Protocol.

⁴ Revised Withdrawal Protocol at page 1, footnote 1.

- “[A]dequate inventory levels remain at the non-Aliso fields before the end of each winter month.”⁵

However, the Revised Withdrawal Protocol, as drafted, does not authorize withdrawals to accomplish these objectives. Instead, the Revised Withdrawal Protocol indicates that withdrawals are permitted under any of the following three conditions:

1. Preliminary low Operational Flow Order (OFO) calculations for any cycle result in a Stage 2 low OFO or higher for the applicable gas day;
2. Aliso Canyon is above 70% of its maximum allowable inventory between February 1 and March 31; in such case, SoCalGas may withdraw from Aliso Canyon until inventory declines to 70% of its maximum allowable inventory; and/or
3. The Honor Rancho and/or Goleta fields decline to 105% of their month-end minimum inventory requirements (shown below) during the winter season.⁶

While these conditions are intended to allow additional use of Aliso Canyon to promote system reliability and mitigate price volatility, they actually restrict its use to circumstances where specific fact patterns are met and do not appear to allow its use in the event of an emergency or to prevent curtailments.

In addition, although the Revised Withdrawal Protocol acknowledges the need to fill, manage and maintain underground storage inventory, it does very little to promote and support SoCalGas’ storage injections. Rather, Conditions 2 and 3 are only applicable to the winter season, and Condition 1 (although it allows summer withdrawals) appears intended to address price volatility, with only a limited ability to promote storage injections and system reliability.⁷

SoCalGas stresses that adequate injections during injection season (April 1 through October 31) are necessary to support winter reliability and should be promoted by the Revised Withdrawal Protocol. Otherwise, withdrawal capacity, which decreases as inventory is used during the winter season, will be further undermined. For example, last November the non-Aliso Canyon fields started the winter season at 47 billion cubic feet (Bcf) of inventory and were able to provide approximately 1.235 Bcf/d of withdrawal capacity. During the winter, withdrawals from all four fields were frequently necessary to support the extremely high hourly demands as

⁵ Revised Withdrawal Protocol at page 1, footnote 2.

⁶ Revised Withdrawal Protocol at page 1 (footnotes omitted).

⁷ SoCalGas interprets the Revised Withdrawal Protocol as allowing SoCalGas to inject at the non-Aliso Canyon fields while withdrawing from Aliso Canyon, if system conditions permit and the other protocol conditions are met. This interpretation is consistent with the intent of the Revised Withdrawal Protocol (supporting system reliability), would (to a limited extent) enable Aliso Canyon to support non-Aliso Canyon injections outside of Conditions 2 and 3, and would help maintain inventory thresholds in preparation for the winter. SoCalGas seeks clarification on this point, but assumes this interpretation is correct absent indications otherwise.

explained in the numerous Aliso Canyon Withdrawal Protocol 30-Day Reports submitted by SoCalGas, as well as the Winter 2018-2019 SoCalGas Conditions and Operations Report dated May 10, 2019. As a result, by March 12, their aggregate inventory had diminished by approximately 32 Bcf, resulting in a withdrawal capacity of 0.585 Bcfd (less than 50% of November's capability). If injection is not maximized during the injection season (April 1 through October 31), then the fields will have even less capacity to support reliability during the subsequent winter season.

Antithetical to the importance of adequate underground storage inventory, Condition 3 may require SoCalGas to allow storage inventory to fall to critically low levels and place system reliability at risk before Aliso Canyon withdrawals can occur. Aliso Canyon must be available well before Honor Rancho and Goleta's storage inventory are drawn down to within 105% of their month-end critical levels, especially if it occurs prior to the end of a month. This is because storage at 105% of their critical levels only allows for potentially a few days of withdrawal before the fields drop below their critical inventory levels. Given Southern California's experience this past winter season, the 105% buffer should be increased to a minimum of 120%.

If Honor Rancho and Goleta reach 105% of their critical levels during the winter, then the system is already at risk and reliability is increasingly at the mercy of changing weather conditions. Honor Rancho and Goleta injections during the winter season, even while Aliso Canyon is on maximum withdrawal, would be extremely slow and dependent on weather and system conditions. To illustrate, from January 4 to March 12, 2019, the non-Aliso Canyon withdrawal capacity dropped from 915 to 585 million cubic feet per day (MMcfd), which means SoCalGas was managing the system with critically low non-Aliso Canyon inventory.

SoCalGas recommends that Energy Division authorize SoCalGas to use Aliso Canyon to manage inventory levels throughout the year, maintain reasonable levels in the non-Aliso Canyon fields, and provide an increased margin of safety for system reliability. To address these issues and increase efficiency and clarity, SoCalGas has attached redlines to the Revised Withdrawal Protocol (*Attachment A*) that propose changes including:

- Adding a definition of "preliminary" to Condition 1. Condition 1 withdrawals are based on a "preliminary" determination that a Stage 2 low OFO or higher may be called. Condition 1 does not, however, define "preliminary." To accomplish the stated goals of the Revised Withdrawal Protocol of addressing "price impacts" and improving "price stability," "preliminary" should be defined as being based on three distinct time periods: (1) prior to Cycle 1 using "prior day receipts and prices and forecasted sendouts"; (2) prior to Cycle 2; and (3) prior to Cycle 3.

Preliminary calculation timing is essential for mitigating price volatility.⁸ By including a preliminary calculation prior to Cycle 1 (when the vast majority of natural gas is traded),

⁸ To the extent a market participant underdelivers on a Stage 2+ low OFO day, they can mitigate non-compliance charges by scheduling Aliso Canyon withdrawals, which potentially provides some "after the

it provides the market with enough time to react when Aliso Canyon withdrawals are made available for balancing and scheduling, and ultimately assists in managing potential price volatility.

The SoCalGas system operator normally calls an OFO after the day-ahead supplies are procured for Cycle 1 scheduling. Indeed, even if prior to Cycle 1 the market “expects” a low OFO will be called after Cycle 1, it does not know what OFO stage will be called. Thus, this change is essential to providing market participants with firm storage withdrawal rights which include withdrawals from Aliso Canyon. Without market certainty that the additional Aliso Canyon withdrawal capacity is being made available for Cycle 1 balancing and scheduling, the market will not factor in the significant additional capacity and prices will have already increased to reflect lower supply availability, which is consistent with the stated intent of the Revised Withdrawal Protocol.

- Removing time and date restrictions on Condition 2 and Condition 3 and increasing the month-end minimum inventory safety margin threshold to enable Aliso Canyon withdrawals year-round when its inventory is above 70% of its maximum allowable inventory or when the inventory at either Honor Rancho or Goleta declines to 120% of its month-end minimum. Removing these time and date restrictions will authorize (under certain circumstances) withdrawals throughout the year, providing approximately 10 Bcf of flexible supply to the market, enabling Aliso Canyon to supplement and support injections into the non-Aliso Canyon fields to promote adequate non-Aliso Canyon inventory throughout the year, and prevent the non-Aliso Canyon fields from falling below critical inventory levels. This added flexibility is especially important for SoCalGas’ Gas Acquisition department who is responsible for procuring low cost and reliable natural gas for core customers and can experience peak demand months in December and January, which are not currently addressed by these withdrawal conditions.

In addition, when Aliso Canyon reaches its stated maximum allowable inventory, it is important that the Revised Withdrawal Protocol provides some flexibility to either go above that number (see discussion of the 715 Report below) or manage around that number through additional withdrawals to allow receipts to continue to flow into the system by creating additional injection space which will promote the maximization of injections into the non-Aliso Canyon storage fields.

- Adding a withdrawal Condition 4 that authorizes withdrawals in the event of an emergency and/or to avoid curtailment of electric load and/or gas curtailments to core and noncore, non-electric generation customers (consistent with the November 2, 2017 Withdrawal Protocol). As an example of issues that could occur absent this change, on

fact” relief, but it does not allow them access Aliso Canyon to avoid the need to acquire higher-priced gas.

June 1, 2019, SoCalGas called for voluntary curtailments and indicated that Aliso Canyon withdrawals would be necessary to maintain system reliability because Line 225 and Honor Rancho's withdrawal was not available due to necessary compliance work. The day resulted in a low OFO stage 1 which, under the proposed Revised Withdrawal Protocol, would not have allowed the use of Aliso Canyon and could have required curtailments, instead of the use of Aliso Canyon. This condition is critical to not only address known outages but unexpected and sudden outages that might occur.

- Indicating that SoCalGas will, specifically for this Revised Withdrawal Protocol, produce month-end minimum inventories, as necessary, prior to the start of the winter and summer operating seasons and as the performance of our storage fields and transmission system warrant. This will allow a more focused, specific, and applicable month end-end minimum inventory for each month of the year and promote active and prudent inventory management throughout the year.
- Indicating in the "Noticing" section that a notice indicates a withdrawal "has" taken place instead of "shall" take place. Also, in addressing the requirement stated in the Revised Withdrawal Protocol to provide "the dates and times when Aliso Canyon's inventory and withdrawal capacity are available for balancing and for scheduling to customers who own storage rights," the SoCalGas ENVOY system already displays the preliminary OFO Calculation and the Capacity Utilization. Once the OFO Calculation and the Capacity Utilization is finalized and approved, ENVOY produces an auto-generated notification which contains the final OFO Calculation and Capacity Utilization. This time-tested ENVOY notification will provide the market the information necessary to respond to Aliso Canyon being made available for balancing and scheduling. The subsequent ENVOY critical notice will provide customers immediate after-the-fact information about Aliso Canyon withdrawals.
- For the "Reporting" section described in the Revised Withdrawal Protocol, SoCalGas recommends that a single monthly report be required at the end of the month for all withdrawals which occurred in that month and captures all described reporting requirements. Given the potential nature of withdrawals, requiring a report after each cessation could result in a separate report for every day in a month which may be less efficient for review. Requiring a single monthly report would create a more efficient process for providing Energy Division information on a withdrawal period from Aliso Canyon.

Updates to the 715 Report

The Commission should revisit its 715 Report and increase the maximum inventory allowed at Aliso Canyon not to exceed the DOGGR limit. For reference, DOGGR has determined that

Aliso Canyon is safe to operate at a reservoir pressure that translates into a working gas inventory of approximately 68.6 Bcf or more than double the current limit.⁹

Without increased inventory and flexibility at Aliso Canyon, injection capacity cannot be maximized since there is no available storage space to put the gas when receipts are in excess of demand and the injection capacity at the non-Aliso Canyon fields. When this occurs, even though the pipelines may have capacity to bring more gas on the system, the maximum amount of gas cannot flow into the system because of the limited available storage space. This results in missed injection opportunities that may not be able to be made up later in the season.

As acknowledged by the Revised Withdrawal Protocol: “Since injection capacity is largely concentrated at Aliso Canyon, once that field reaches its maximum inventory, there is little firm injection capacity left on the system. Without Aliso Canyon’s injection capacity, it is difficult for customers to build gas storage inventory at the other three storage fields.”¹⁰ That is the case today because Aliso Canyon is at its maximum allowable inventory level. The SoCalGas system needs additional inventory space available to maximize injections. The Commission’s low cap on Aliso Canyon inventory severely restricts the ability of gas to move into the SoCalGas system and be injected into storage once Aliso Canyon reaches the allowed maximum level. In addition, there needs to be a recognized flexibility to exceed Energy Division’s stated maximum to promote gas continuing to flow into the system and build inventory in the non-Aliso Canyon fields.

Conclusion

SoCalGas appreciates the Commission’ and Energy Division’s attention to these important efforts to further promote our shared goal of a reliable system at just and reasonable rates. SoCalGas believes action consistent with its position stated herein, including, at a minimum, the adoption of its requested changes to the Revised Withdrawal Protocol would be a considerable furtherance towards this goal.

Sincerely,

/s/ Setareh Mortazavi

Setareh Mortazavi
Counsel

SOUTHERN CALIFORNIA GAS COMPANY

⁹ See

https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/715Report_Summer2018_Final.pdf.

¹⁰ Proposed Revisions to the Aliso Canyon Withdrawal Protocol at page 2.

ATTACHMENT A



Draft Aliso Canyon Withdrawal Protocol
July 1, 2019

This Withdrawal Protocol replaces the November 2, 2017, version in its entirety.

Southern California Gas Company (SoCalGas) may withdraw gas from the Aliso Canyon natural gas storage facility (Aliso Canyon) consistent with the protocol defined below.

Aliso Canyon may be used for withdrawals only if any of the following conditions are met:

1. Preliminary¹ low Operational Flow Order (OFO) calculations for any cycle result in a Stage 2 low OFO or higher for the applicable gas day;
2. Aliso Canyon is above 70% of its maximum allowable inventory ~~between February 1 and March 31~~; in such case, SoCalGas may withdraw from Aliso Canyon until inventory declines to 70% of its maximum allowable inventory;² and/or
3. The Honor Rancho and/or Goleta fields decline to ~~120-105~~% of their month-end minimum inventory requirements ~~(shown below) during the winter season.~~³

Storage Field	Month-End Minimum Inventory (in Bcf)				
	Nov.	Dec.	Jan.	Feb.	March
Aliso Canyon	5.7	5.1	4.4	3.8	2.1
Honor Rancho	13.9	13.2	12.6	7.5	5.0
La-Goleta	8.0	7.9	7.7	7.6	7.5
Playa-del-Rey	1.9	1.9	1.5	1.1	0.7
Total	29.5	28.1	26.2	20.0	15.3

4. There is an imminent and identifiable risk of gas curtailments created by an emergency condition or result in curtailments of electric load that could be mitigated by withdrawals from Aliso Canyon. Such risk could arise due to emergencies on the gas pipeline system or because conditions require additional gas supply otherwise unavailable. Under such circumstances, when reliability is at risk and curtailment is imminent, SoCalGas may, at its sole discretion, execute a withdrawal from Aliso Canyon.

¹ Preliminary low OFO calculations shall be based (1) prior to Cycle 1 using “prior day receipts and prices and forecasted sendouts”; (2) prior to Cycle 2; and (3) prior to Cycle 3.

² This measure is designed to ensure that there is enough systemwide injection capacity by April 1 (the start of the injection season) to fill the non-Aliso fields to a sufficient inventory level to meet summer and winter demand.

³ This measure is designed to ensure that adequate inventory levels remain at the non-Aliso fields before the end of each ~~winter~~ month. SoCalGas will provide the month-end minimums for each month prior to the start of each summer/winter season. For these published winter minimums in the table. SoCalGas’ Aliso Canyon Risk Assessment Technical Report 2018-19 Supplement identified month-end minimum inventory requirements needed to preserve withdrawal rates for core reliability. The report can be found here:

[http://cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2018/2018%2011%20002%20SoCalGas%20\(R.%20Schwecke\)%20letter%20to%20CEC%20enclosing%20WINTER%202018-19%20TECHNICAL%20ASSESSMENT.PDF](http://cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2018/2018%2011%20002%20SoCalGas%20(R.%20Schwecke)%20letter%20to%20CEC%20enclosing%20WINTER%202018-19%20TECHNICAL%20ASSESSMENT.PDF)

The CPUC may update the Withdrawal Protocol if it determines that a modification ~~of the month-end minimum inventory requirements~~ is necessary.

Withdrawals shall be made in a manner that ensures safety, maintains the integrity of the wells and storage facility, and is consistent with all rules and regulations concerning the safe use of Aliso Canyon.

If Aliso Canyon is used for withdrawals based on ~~any of~~ the conditions stipulated above, Aliso Canyon's inventory and withdrawal capacity shall be made available for balancing and for scheduling to entities who both serve core customers and own storage rights.

SoCalGas and the California Independent System Operator (CAISO) and the Los Angeles Department of Water and Power (LADWP) shall continue to coordinate to maintain gas and electric system reliability.

Curtailments

If curtailments are required despite Aliso Canyon withdrawals, SoCalGas shall consult with the CAISO and the LADWP before and during any curtailment. In the event of a curtailment, the priority of service under SoCalGas Rule No. 23 shall remain in place.⁴

Noticing

~~After Prior to~~ withdrawing gas from Aliso Canyon, SoCalGas shall post a Critical Notice to Envoy informing customers and the public that a withdrawal ~~will has~~ taken place and providing the reason for initiating the withdrawal as defined above. ~~The Notice shall also state the dates and times when~~ Whenever Aliso Canyon's inventory and withdrawal capacity are ~~made~~ available for balancing and for scheduling ~~by to~~ customers who own storage rights, customers will be notified through the currently auto-generated notification in SoCalGas' ENVOY system (which includes the OFO Calculation and the Capacity Utilization).

Reporting

In a monthly report to be provided after the 3rd business day for each month where withdrawals occurred from Aliso Canyon,⁵ Within 30 days after the cessation of a withdrawal period, SoCalGas shall provide the CPUC's Energy Division both a confidential and public report with a full description of the events and conditions leading up to the Aliso Canyon withdrawal(s).

The report shall include:

1. the total and hourly withdrawals from the field;
2. the pre- and post-withdrawal Aliso Canyon working gas inventory;
3. the inventory of the non-Aliso fields before and after the Aliso Canyon withdrawal(s);
4. the geographical and/or the time price spread used in determining the OFO stages for the day(s) of the withdrawal(s) and the two days immediately preceding and following;
5. weather conditions in the SoCalGas service territory for the day(s) of the withdrawal(s) and the day immediately preceding the initiation of withdrawal(s);
6. the hourly pipeline receipts for the calendar day(s) on which a withdrawal was made and

⁴ Rule 23: <https://www.socalgas.com/regulatory/tariffs/tm2/pdf/23.pdf>

⁵ This report would include the gas day starting on the first of the month and include the gas day that ends on the first day of the subsequent month. A gas day is 7am to 7am the following day.

- the day immediately preceding the initiation of withdrawal(s);
7. the hourly withdrawals by field from non-Aliso storage facilities for the calendar day(s) on which a withdrawal was made and the day immediately preceding the initiation of withdrawal(s);
 8. demand response activations and Dial It Down Alerts; and
 9. information concerning any anomalies experienced during the operation of the field.

Effective Date

This protocol is proposed to become effective after the comment period. The protocol shall remain in effect, subject to modification, through the completion of the CPUC Investigation (I.) 17-02-002 or such time as determined based on conditions.

ATTACHMENT B

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



Proposed Modified Aliso Canyon Withdrawal Protocol

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Introduction

Southern California Gas Company (SoCalGas) may withdraw gas from the Aliso Canyon natural gas storage facility (Aliso Canyon) consistent with the protocol defined below. The protocol implements the following principles:

- Except as detailed in item 1.C, Aliso Canyon will be treated as the “asset of last resort” used for withdrawals after ~~all~~ other alternatives have been exhausted as defined by the protocol and consistent with items 1.A. and 1.B, below;
- Withdrawals from Aliso Canyon may be initiated to avoid and limit curtailments pursuant to Southern California Gas Company Rule No. 23 (Rule No. 23);
- The priority of service under ~~Southern California Gas Company~~ Rule No. 23 shall remain in place should curtailments be required;
- If curtailments are required, SoCalGas shall consult with the applicable Balancing Authorities (the California Independent System Operator [CAISO] and the Los Angeles Department of Water and Power [LADWP]) before and during any curtailment;
- Should curtailments to electric generation create a risk to electric load that is critical to health and safety, withdrawals may be made consistent with the protocol; and
- Withdrawals will be made in a manner that ensures safety, maintains the integrity of the wells and storage facility, and is consistent with all rules and regulations concerning the safe use of Aliso Canyon.
- As detailed in item 1.C, Aliso Canyon shall be used to provide imbalance services and to preserve deliverability requirements necessary for core reliability at SoCalGas’ other storage fields through inventory management.

Aliso Canyon Withdrawal Protocol

1. Withdrawals from Aliso Canyon. Withdrawals from Aliso Canyon will be based on forecasted and known conditions including but not limited to weather, overall gas demand, electric generation gas demand, and the current and anticipated operating condition of the SoCalGas system. Withdrawals will be made when, ~~in coordination with the Balancing~~

~~Authorities~~, it is determined that withdrawals are necessary to maintain reliability overall, to respond to a risk to natural gas or electric system reliability, and/or to avoid or to limit curtailments to core and noncore customers. In all cases, withdrawals may only be made consistent with safe operation of the field and the system and in compliance with any mandated protocols for production from the field.

Within this context, withdrawals will be made if the circumstances described in A, ~~or~~ B, or C below, occur:

A. The following three conditions exist:

- (1) SoCalGas has taken all appropriate actions it deems available and necessary to meet demand and to avoid curtailment of electric load and/or gas curtailments to core and noncore, non-electric generation customers. Such actions include the use of operational and emergency flow orders and coordination with Balancing Authorities to limit and/or reduce demand in effected areas; and
- (2) To avoid curtailments of electric load, the CAISO and/or LADWP, in coordination with SoCalGas, have activated their appropriate capacity emergency plans based on the existing and forecast conditions; and
- (3) There remains an imminent risk that curtailments of electric load will occur without additional gas supply.

B. There is an imminent and identifiable risk of gas curtailments created by an emergency condition that would impact public health and safety or result in curtailments of electric load that could be mitigated by withdrawals from Aliso Canyon. Such risk could arise due to emergencies on the gas pipeline system or because conditions require additional gas supply otherwise unavailable. Under such circumstances, when reliability is at risk and curtailment is imminent, SoCalGas may, at its sole discretion, execute a withdrawal from Aliso Canyon.

C. Aliso Canyon may be used to (1) address imbalances between customer demand and available supply; and/or to (2) preserve delivery requirements necessary for core reliability at SoCalGas' non-Aliso Canyon storage fields. Withdrawals under section 1.C may be made without coordination with the Balancing Authorities and not subject to reporting requirements specified in Section 4. Instead of Section 4 reporting, SoCalGas shall prepare and submit to Energy Division a report detailing Aliso Canyon's use for the winter operating season (November through March) and a report detailing its use for the injection operating season (April through October). These reports shall detail customer demand, available supply, and imbalance activity provided by Aliso Canyon.

2. Readiness of the Aliso Canyon Field. SoCalGas shall take all actions necessary to allow for timely withdrawals and shall maintain the Aliso Canyon field on a standby basis as warranted by forecasted conditions/ risks to system reliability. Further, if at any time the CAISO declares a Flex Alert, SoCalGas shall coordinate with the CAISO and LADWP and make any preparations necessary to allow for a timely withdrawal.

3. Executing a Withdrawal Under Conditions Defined in 1.A. As operator of the Aliso Canyon storage facility, SoCalGas has the obligation to make an informed decision to

withdraw gas from Aliso Canyon under the conditions defined in 1.A. above. In confirmation that those conditions have been met, SoCalGas shall contact the Balancing Authorities and confirm that they (the Balancing Authorities) have met the conditions in number 1.A. For information purposes, the California Public Utilities Commission (CPUC) shall be included in such contacts and may participate as appropriate.

Communications may be made using any method acceptable to SoCalGas, the CPUC, and the Balancing Authorities. SoCalGas, the Balancing Authorities, and the CPUC shall make all arrangements for the required communications and confirmations necessary with executing a withdrawal.

4. Section 1.A and 1.B Noticing and Reporting. SoCalGas shall immediately notify the CPUC Energy Division (Energy Division) of the following: issuance of a Stage 4 or 5 Operational Flow Order or an Emergency Flow Order; in the event of an emergency that threatens system reliability and may require electric curtailments; and at the initiation of withdrawals from Aliso Canyon.

Within 24 hours of the cessation of a withdrawal from Aliso Canyon, SoCalGas shall provide the Energy Division with the following:

- the total and hourly withdrawals from the field;
- the number of wells used for making withdrawals and the SoCalGas identifier for each well used;
- the pre- and post-withdrawal Aliso working gas inventory;
- the hourly pipeline receipts for the calendar day(s) on which a withdrawal was made and the day immediately preceding the withdrawal;
- the hourly withdrawals by field from non-Aliso storage facilities for the calendar day(s) on which a withdrawal was made and the day immediately preceding the withdrawal;
- information concerning any anomalies experienced during the operation of the field;
- any repairs or mitigation required as a result of the withdrawal, including the time necessary to make them before another withdrawal could be made and the impact on the field's injection and withdrawal capacity; and
- whether the withdrawal was made under conditions identified in 1. B.

Within 30 days after a withdrawal, SoCalGas shall provide the Energy Division with a full description of the events and conditions leading up to the withdrawal, all actions taken prior to the withdrawal, and any observations or recommendations concerning the execution of future withdrawals. Further, SoCalGas shall identify and describe any steps or actions not taken that could have diminished or eliminated the need for a withdrawal and make comments and/or recommendations for future consideration.

If a withdrawal from Aliso Canyon was due to an activation of the CAISO or LADWP emergency plans as described in Section 1.A., the Balancing Authorities agree to submit a description of the event that includes forecast demand, operating reserve requirements, and anticipated capacity deficiencies based on the requested gas curtailments for the impacted hours. The CAISO and/or LADWP may also:

- a) identify and describe any steps or actions not taken that could have diminished or eliminated the need for a withdrawal, and
- b) make comments and/or recommendations for future consideration.

5. Effective Date. This protocol shall become effective ~~November 1XX, 2017~~2019. The protocol shall remain in effect, subject to modification through the completion of the CPUC Investigation (I.)17-02-002, or such time as determined based on conditions.